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THE NAME OF THE GOPHER FROG.

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Rana areolata Baird and Girard (1852, p. 173) was described from Indianola, Matagorda County, Texas. The type specimen (U. S. Nat. Mus., No. 3304) is a medium-sized adult. (Originally recorded as "three inches and a half," the length at present is only 77 mm.; the tibia is 38.) Its color has faded to such an extent that the dorsal body pattern is no longer very distinct. The pattern of the hind limbs, however, corresponds to that of well-preserved specimens from Rogers County, Okla. (U. S. N. M., No. 94247), and from Montgomery County, Mo. (U. S. N. M., Nos. 57844–57848), in having the broad light bars interrupted in the middle by narrow, more or less broken, dark bars (cf. Dickerson, 1906, pl. 73; Wright and Wright, 1933, pl. 58; Smith, 1934, pl. 20). Such intermediate or secondary dark bars are far less developed in specimens of the Gopher Frog from Georgia and Florida (cf. Le Conte, 1855, pl. 5; Dickerson, 1906, pl. 74; Wright and Wright, 1933, pl. 57). This difference appears to furnish an excellent means for separating the Texas and Mississippi Valley species from the southeastern species. The type of *areolata* has the under parts unspotted except along the mandible and the sides of the throat, in this respect agreeing with the above-mentioned specimens from Missouri.

Rana capito Le Conte (1855, p. 425) was described from Georgia, "in the ditches of the rice-fields." This doubtless means the vicinity of Riceborough, Liberty County. The type specimen (U. S. N. M., No. 5903) agrees with the plate accompanying the original description. It is an adult in good condition. (Le Conte's statement of its length, "4.2 in.," is probably not an error, although the present length is only 81 mm.; the discrepancy is more likely due to shrinkage. The present measurement of the tibia, 37 mm., agrees exactly with the original measurement of

1.45 in.) The original black parts have become dark brown, but the color pattern is readily distinguishable. The dorsal spots are noticeably smaller and more numerous than in the average specimen of *areolata.* The entire ventral surface, of both body and limbs, is spotted, in this respect differing decidedly from *areolata.*

Rana areolata aesopus Cope (1886, p. 517) was based upon a single specimen from Micanopy, Alachua County, Fla. In the preparation of his catalogue of 1889, Cope still had no other specimen of *aesopus,* and the type of *capito* was not before him. The type of *aesopus* (U. S. N. M., No. 4743) is immature or subadult, in its present shrunken condition being only 50 mm. in length. (Cope's original measurement of length was 62; of tibia, 24.) The color pattern is not so well preserved as in the type of *capito,* but in general corresponds very well to that of the latter. The throat and upper breast are spotted. The abdomen is badly preserved and shows no color pattern.

There can be no doubt that the type of *aesopus* and all other specimens from Florida and Georgia are identical with *capito.* In addition to the above-mentioned types, I have examined the following specimens of this species in the U. S. National Museum collection, through the courtesy of Dr. Leonhard Stejneger: Nos. 57533–57535, Levy County, Fla. (J. Hurter); No. 61062, Marion County, Fla. (Reynolds); Nos. 25513–25514, Crescent City, Putnam County, Fla. (H. G. Hubbard); Nos. 59413 and 60576, Auburndale, Polk County, Fla. (N. R. Wood); Nos. 21702–21703, "Florida" (H. G. Hubbard). No. 11897, without locality data and labeled *R. a. areolata,* is definitely *capito.* I have also had before me the following Florida specimens in the collection of the Academy of Natural Sciences of Philadelphia: No. 14617, Pasco County; Nos. 15244–15245, Tarpon Springs, Pinellas County (W. S. Dickinson); and two others with less definite data. Besides examining these museum specimens, I am familiar with the live frog in Charlton County, Ga., and Baker and Nassau Counties, Fla. The throat, breast, and ventral side of the hind limbs in some of the specimens (especially the larger ones) are spotted; apparently the smaller specimens tend to be less spotted on the posterior under parts, but the throat at least seems always to be spotted.

Rana capito has long failed of proper recognition by herpetologists. Miss Dickerson (1906, p. 192) synonymizes it with *areolata* on the basis of measurements, making no reference to its color characters. Boulenger, in his account of *areolata,* says (1920, p. 467):

"I have regarded this *R. aesopus* as specifically distinct from *R. areolata,* under the name of *R. capito.* There can be no question that Leconte's figure agrees with *R. aesopus* as defined by Cope and not with *R. areolata;* however, Dr. Barbour has recently informed me that Dr. Stejneger, having at his request reexamined the type of *R. capito,* and compared it with the types of *R. areolata* and *R. aesopus,* states it to be unquestionably the same as *R. areolata* and not *R. aesopus.* I submit of course to Dr. Stejneger's verdict, but considering the state of things resulting from it, it seems to me that a strict definition of the species is an impossibility and I have therefore restored *R. aesopus* to the rank of a subspecies or variety of *R. areolata*, assigned to it by its original describer."

From Boulenger's table of measurements (p. 467) it is evident that *areolata* has a relatively narrower head than "*aesopus*." He describes the lower parts of the former as "pale yellow or white"; those of the latter as "white, spotted or vermiculate with brown on the throat and breast." Smith's measurements (1934, p. 479) also indicate that the head is narrower in *areolata* than in *capito*; he states that the ventral surfaces of the former are "immaculate, whitish."

Stejneger and Barbour (1933, p. 38) give the range of *aesopus* as "Florida northward into South Carolina," but include Georgia in the range of *areolata;* they make no reference to *capito.*

Meanwhile, however, there have not been wholly wanting those who maintain belief in the validity of *capito.* An annotation on the card for Le Conte's type in the U. S. National Museum's catalogue indicates such a belief on the part of Percy Viosca, Jr. Wright (1931, p. 350) also expresses belief in the synonymy of *capito* and *aesopus*, but does not carry the matter to a logical nomenclatural conclusion by adopting the earlier name. Wright and Wright (1933, p. 150) show a clear understanding of the distributional facts by excluding *areolata* from the Southeastern States, but still refrain from substituting *capito* for *aesopus.*

Rana areolata aesopus Cope is hereby definitely—and I hope finally—sunk in the synonymy of *Rana capito* Le Conte, and Wright and Wright's restriction of *Rana areolata* to Texas and the Mississippi Valley is confirmed.

This disposition of the names accords with the known facts in the ecology of the Gopher Frog. Its primary habitat is the burrows of the Gopher Turtle (*Gopherus polyphemus*). The range of the latter extends in the Coastal Plain from South Carolina and Florida to Arkansas (Stejneger and Barbour, 1933, p. 150). The evidence at hand indicates that the range of *Rana capito* lies wholly within, and the range of *R. areolata* wholly without, that of *Gopherus polyphemus.*

In the absence of any evidence of intergradation—or even of geographical contiguity—*areolata* and *capito* should stand as distinct species.

Just as *capito* owes its common name to the Gopher Turtle with which it associates, so "Crawfish Frog" is a fitting name for *areolata*, by reason of its appropriation of the crustacean's burrows for its own habitations. "Northern Gopher Frog," employed by some authors for *areolata*, is scarcely a suitable name for a species that is not known to have any contact with the Gopher Turtle.

The amount of shrinkage in the length of head and body that seems to have taken place in all three of the type specimens mentioned above, in the 49 to 83 years since their original description, indicates the danger of regarding this as a stable measurement in frogs. The situation is aggravated if the other measurements are expressed as proportions of the head-and-body length, instead of in terms of actual length.

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